UNIVERSITY OF MINNESOTA COMPUTER CENTER
Deadstart Systems Newsletter

28 December 1979 Vol. 5, No. 24

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NOTICE OF CHANGES TO THE SYSTEM

The following changes will be installed on Thursday, 27 December.

Kevin Matthews added free PP counts to the performance measurement code in CPUMTR.

Don Mears added the following changes.

1) PP deadstart from R5 was installed (see DSN 5,23 P. 191).

2) An option was added to DSDI, the deadstart dump interpreter, which allows dumping of a PP which has been deadstarted on-line.

3) Don installed the ACTX account file messages proposed by Jim Fairweather (see DSN 5,23 P. 187).

4) Field length calculation for the RUN and BEGIN commands in TELEX was repaired.

5) Additional drop-pot trap code was added to TELEX. Dropped pots have been a bothersome problem with the R4 TELEX/1TD.

Tim Hoffmann installed the long awaited large job class. This job class is entered by specifying a P1 on the job card. Jobs in this class run two at a time beginning at 6:00 p.m. A job with P1 on the job card cannot use tapes or removeable packs. The incentive is that the SRU rate is less than half the normal rate. An additional feature of this change is that the old behavior where a delay job would be dequeued (placed on the IQFT) until LOWRATE time has been reinstated and expanded to include both P0 and P1 jobs. Because a DSD Q-display will no longer indicate the presence of delay or large jobs, the old QUEUE utility has been reinstated. Finally,

the cost utility was altered to detect large job status. Tim also corrected the number of active users count in TELEX and added an N option to ENQUIRE (see DSN 5,23 P. 182 (option 3)).

Marisa Riviere installed the following changes.

1) An MID check was added to RFM so that only the default family is referenced on the C720.

2) An upper/lower case line length problem in MFEBR was corrected.

3) The message issued by CALLPRG referring to a global library set overflow was changed to GLOBAL LIBRARY OVERFLOW - SEE ENQUIRE,L.

Bill Sackett installed the following changes.

1) The old KRONOS feature where a non-CSPF user could use the REPLACE command was reinstated. The feature was deproposed at the beginning of the R4 conversion but popular demand on the MERITSS system brought the feature back.

2) Program SET was modified to allow the INITIALIZE command as a permanent CMRDECK entry.

3) Program CPUMLD was enhanced to not load CPUMTR code blocks used for ECS/COUPLER access when no coupler is available.

Brad Blasing installed the R5 version of the Cyber loader and the COMPASS assembler. Although there was little justification for installing the R5 compass, many PSR fixes (about 30) were applied to the R5 Cyber loader.

Jeff Drummond installed the following changes.

1) Jeff installed a mod (from CDC) to correct the late data problems recently encountered by the 9-track tape drives on the C74.

2) Program BLOCK was altered to correct errors with the use of the MB parameter. Previously, the MB parameter was assumed to be the maximum block size in words rather than characters (as documented). Also BLOCK was not checking to ensure that the amount of memory it was to request was reasonable, ie., less than 400K.

3) Program EXAMINE was changed to display S-format in the dayfile summary instead of SI when both are possible. This was changed because S tapes are much more common at UCC than SI tapes.

4) The density (D) parameter on the TAPES (SET...) statement was corrected for 9-track tapes.

5) The dayfile returned by TRANSIT will no longer say MERITSS/MECC even if the dayfile came from the C74/C172.

6) Internal documentation in SEND was updated.

7) Program DDS, the deadstart diagnostic sequencer, was corrected to work correctly on a DD60 console with the repeat-key enabled and to correctly reference all of memory on a C172 with more than 131K of memory and more than 10 PP's.

Steve Collins installed XEDIT version 3.1 (see DSN 5,11 P. 97). Steve also installed changes to TELEX which alter fortran subsystem names (see DSN 5,22 P. 183). Additionally, Steve installed a new CPORT with unspecified changes.

PROPOSED CHANGES TO THE SYSTEM

Central Site Divert - by D. W. Mears

I propose to change ODV to cause output files at the central site which are larger than some threshold (to be named later) to be diverted to a special forms queue. Operations will have the large output forms code set on one or two printers, thereby ensuring at least one printer will always be available for short listings.

SYSTEM MAINTENANCE: People and Procedures

Last Week's Systems Group Meeting - by T. W. Lanzatella

The following proposals were discussed.

1) Tim Hoffmann's proposal to install any of three options which reinstate a TELEX active user count was accepted (see DSN 5,22 P. 182). We specified that option 3 should be installed. With this option, a N option is added to ENQUIRE.

2) Tom Lanzatella's proposal to change the way PF limits are enforced for permanent file requests from SSJ= jobs was accepted (see DSN 5,23 P. 186).

3) Steve Collin's proposal to add ten window settings and an optional filler line used with the justify command was accepted (see DSN 5,23 P. 187).

4) Jim Fairweather's proposal to add TELEX up/down messages to the account file was accepted (see DSN 5,23 P. 187).

5) Marisa Riviere's global library proposal was accepted (see DSN 5,23 P. 188). We stipulated, however, that the error message given when the library set overflows should be more explicit and that FETCH ought to cause a message indicating what library is made global by the command.

6) Don Mear's proposal to remove the COR and CORAPL character sets was approved (see DSN 5,23 P. 190).

7) Don Mear's proposal to install PP deadstart was approved (see DSN 5,23 P. 191).

8) Don Mear's proposal to install deadstart from disk from R5 was approved (see DSN 5,23 P. 192).

As an unannounced agenda item we tried to decide the fate of the names of the PASCAL and SNOBOL subsystems. We couldn't decide on decent names hence,

no change will be made.

The next agenda item was console policy. The issue here is that operations supervisors are confused as to how to deal with the frequent conjestion at the consoles. This conjestion interferes with operations. John Sell would like to form a policy regarding console use. Systems group members are very reluctant to give up console access since this is frequently a way of solving user problems promptly. Other system group members felt that any policy should apply to the accounting group and to operations as well. Just as this discussion was about to heat-up Marisa suggested that all individuals concerned (systems and operations) write a brief memo describing their need for the consoles and what a good policy would be. These memos should be sent first to Lanzatella and Sell. They will than be sent to Liddiard and Nachtsheim for final mediation.

Larry pointed out that staff use of the C172 is up to 25%.

We will begin sharing pack UCC between the C74/C172. The field length restriction on the C74 should keep staff from hogging too many C74 cycles.

Extra terminals in the terminal room at Lauderdale will be removed.

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Cyber Deadstart Dump Analysis from Friday, 7 December Through Tuesday, 25 December - by K. C. Matthews

Monday, 10 December

16:35 (DD2005) Cyber 172
1TA hung. 1TA is a TELEX auxillary program. Don Mears is working on the problem.

Wednesday, 12 December

14:54 (DD2006) Cyber 172
1TA hung again.

Thursday, 13 December

11:02 Cyber 74
DN30 was flashing an error idle status. (This does not hang the device, due to our error idle mod.) The problem was that a 2 day old pack of permanent file device DN13 had been mounted by KCM on Thursday morning. This caused problems on DN30 because catalog entries of files that had since been purged were pointing to tracks on DN30. The end result was that DN13 and DN30 had to be reloaded, causing about 2 hours of down time.

Saturday, 15 December

07:23 Cyber 172
The display console blanked while the engineers were working on the memory addition. A deadstart was impossible because ECS errors were reported. The engineers fixed the problem and the 172 was up at 08:07.

10:54 Cyber 172
The drive for DN65 broke. The operators moved the pack to another drive and brought the system up successfully.

13:25 Cyber 172
All jobs (including TELEX) were aborted due to a system checkpoint. This was due to a power alarm being set in the course of the memory addition work.

Sunday, 16 December

01:00 (DD2011) Cyber 172
The 172 hung with a PP1 memory parity error. The error condition was cleared during the level 3 deadstart. The error did not occur again.

Monday, 17 December

10:29 (DD2012) Cyber 172
The display console went blank. CPUMTR failed immediately after a deadstart. The engineers found a problem in the added memory, and it was disabled for the rest of the day.

11:38 Both Machines
ECS errors began occuring. Both machines were brought down to allow ECS to be tested and repaired. The problem was fixed quickly, and a level 0 deadstart performed on each machine.

Tuesday, 18 December

15:35 (DD2013) Cyber 74
PP program 1RI got confused over a bad system sector on a rollin filer. This has happened before, and it always hangs the system badly. KCM has finally generated a fix to 1RI. In this case, the bad rollin file resulted from an incorrect console memory entry. Things like this will happen from time to time when memory changes are made. The best solution is to correct the condition with something other than a memory entry.

Thursday, 20 December

13:05 (DD2014) Cyber 74
The system simply hung. Analysis showed that the upper bank of PPU's appeared to be hung on central memory read instructions. This is reminiscent of a Cyber 74 problem several years ago.

14:21 (DD2015) Cyber 172
PFM hung when a file on pack UCC was purged. Pack UCC sometimes has bad catalog entries left over from system time.

14:37 (DD2016) Cyber 172
CIO hung dropping tracks on a scratch file. It was impossible to determine why the tracks were not reserved.

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Cyber 170-720 Deadstart Dump Analysis (12/10-12/25) - by R. A. Williams

Date	Description	Tape
791216	The system came up late because software preparation for NOS took longer than expected.	N.A.
791218	1TD hung and a PPU memory parity error flag was set on recovery in the SCR.	Fixed
791218	Channel 1 hung empty and, on the deadstart, a PP parity error was flagged in the SCR. The CE's couldn't make it fail so they moved the card.	Fixed
791219	A PPU had a memory parity error. The PP was turned off and replaced.	Fixed
791220	TELEX aborted with a GQE abnormal. Earlier, the TELEX scheduler had hung and been reset.	See Me

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TELEX and TELEX PDP11 Crash Analysis (12/10 to 12/23) - by D. W. Mears

12/10 16:35 1TA hung on the 172 when TELEX requested the scheduling of garbage FNT entries. This looks like the dropped pot problem again. I think that this problem is fixed (again).

12/11 8:15 The power supply in the second 2550 cabinet broke. At 9:00 the CE's returned the 2550 with the ports in the second cabinet disabled.

12/11 09:00 The experimental 2550 deadstart cassette which we tried and abandoned on 11/19 was accidentally deadstarted because the label on that cassette had not been changed to indicate it was not to be used. We discovered the error at noon, but operations decided to continue running with the bad system for the rest of the day. By the end of the day we had 24 hung ports.

12/12 14:54 1TA hung on the 172. Same as 12/10.

12/14 12:17 While moving some cables and CLA's from the second 2550 cabinet (which was still broken) to the first cabinet, I accidentally knocked loose one of the high speed mux loop cables. This effectively halted all I/O on the 2550. Although it took the CE's about 30 seconds to find the problem and fix it, the 2550 was effectively down for about 20 minutes.

12/17 16:26 TELEX had to be stopped on both machines for a minute because the new version of TELEX with the new subsystems had not been placed on the KLUDGES file.

12/18 08:00 The 2550 was brought up 1 hour late because its DECWRITER would
12/19 not work.

There was one recovered link error on each machine during this period.